

AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A baking system including a plate for receiving a wafer to be baked, a heater for heating the plate, and a cooling apparatus for cooling the plate, the cooling apparatus comprising:

a heatpipe cooling the plate using vaporization of a coolant in the heatpipe, the heatpipe being external to the plate and being arranged in proximity to the plate, the heatpipe and the plate being discrete elements, and the heater being disposed between the heatpipe and the plate,

a coolant storage tank supplying the coolant into the heatpipe when the plate is cooled and receiving the coolant supplied to the heatpipe when the plate is heated; and

a thermostatic element maintaining an approximately constant temperature of the coolant supplied into the heatpipe when the plate is cooled,

wherein the coolant is supplied into the heatpipe via a path and the coolant storage tank receives the coolant supplied to the heatpipe via the path used in supplying the coolant into the heatpipe, the path being between the coolant storage tank and the heatpipe.

2. (Previously Presented) The baking system as claimed in claim 1, wherein the coolant storage tank comprises a coolant flowing element for flowing the coolant into the heatpipe when the plate is cooled.

3. (Previously Presented) The baking system as claimed in claim 1, wherein the thermostatic element comprises:

a cooling water storage tank for circulating cooling water through the heatpipe;
and

a cooling water supply pipeline, which is a path of the cooling water, that extends into the heatpipe and provides flow communication between the heatpipe and the cooling water storage tank.

4. (Previously Presented) The baking system as claimed in claim 3, wherein the cooling water supply pipeline has a valve between the cooling water storage tank and the heatpipe.

5. (Previously Presented) The baking system as claimed in claim 1, further comprising a coolant supply pipeline for providing flow communication between the coolant storage tank and the heatpipe.

6. (Previously Presented) The baking system as claimed in claim 5, wherein the coolant supply pipeline has a valve between the coolant storage tank and the heatpipe.

7. (Previously Presented) The baking system as claimed in claim 1, wherein the heatpipe includes a ceiling portion and internal side portions.

8.-9. (Cancelled)

10. (Original) The baking system as claimed in claim 2, wherein the coolant flowing element is a heater disposed adjacent to the coolant storage tank.

11. (Original) The baking system as claimed in claim 2, wherein the coolant flowing element is a heater integrated with the coolant storage tank in a single body.

12. (Previously Presented) The baking system as claimed in claim 7, wherein the heatpipe comprises a wick on the ceiling portion and a wick on the internal side portions of the heatpipe.

13. (Previously Presented) The baking system as claimed in claim 12, wherein the wick on the ceiling portion and the wick on the internal side portions of the heatpipe has a linear shape, a spiral shape or a radial shape.

14. (Previously Presented) The baking system as claimed in claim 13, wherein the wick on the ceiling portion has a different shape than the wick on the internal side portions of the heatpipe.

15. (Original) The baking system as claimed in claim 7, further comprising:
a wick plate having a plurality of planar wicks installed on the ceiling portion of the heatpipe; and

a wick formed on the internal side portions of the heatpipe to guide the coolant to flow toward the wick plate.

16. (Previously Presented) The baking system as claimed in claim 15, wherein the wick formed on the internal side portions of the heatpipe has a linear shape, a spiral shape or a radial shape.

17. (Cancelled)

18. (Previously Presented) The baking system as claimed in claim 7, further comprising a wick plate installed on the ceiling portion and a wick plate installed on the internal side portions of the heatpipe.

19.-20. (Cancelled)

21. (Original) The baking system as claimed in claim 1, wherein the coolant is selected from the group consisting of acetone, methanol, water, and distilled water.

22. (Previously Presented) The baking system as claimed in claim 1, wherein the thermostatic element extends along a bottom surface of the heatpipe inside the heatpipe, the bottom surface facing away from the heater, and the thermostatic element being substantially submerged in the coolant when the coolant is supplied to the heatpipe.

23. (Previously Presented) The baking system as claimed in claim 22, wherein the heater extends along an entire top surface of the heatpipe, the heater

being external with respect to the heatpipe, and the bottom and top surfaces of the heatpipe being opposite each other.

24. (Previously Presented) The baking system as claimed in claim 1, further comprising a wick on an inner surface of the heatpipe, the wick being arranged to be substantially submerged in the coolant inside the heatpipe.

25. (Previously Presented) The baking system as claimed in claim 2, wherein the coolant flowing element is adapted to control coolant flow by varying pressure.

26. (Previously Presented) The baking system as claimed in claim 1, wherein the path is a coolant supply pipeline providing flow communication between the coolant storage tank and the heatpipe, wherein the coolant storage tank is receiving the coolant from the heatpipe via the coolant supply pipeline and the heatpipe is receiving the coolant from the coolant storage tank via the coolant supply pipeline.

27. (Previously Presented) The baking system as claimed in claim 3, wherein at least a portion of the coolant is liquid coolant and the cooling water supply pipeline is substantially submerged in the liquid coolant portion when the coolant is supplied to the heatpipe.